

As described in the Background of the Invention of the application, Virtual Private Networks (VPNs) interconnect various geographically dispersed customer sites and offer privacy and cost efficiency by sharing network infrastructure. However, conflicting and overlapping address space between the individual VPNs and the management networks may cause address conflicts, security problems, scalability issues and performance problems. Therefore, encapsulating techniques, such as internet protocol (IP) tunneling, are used to separate a respective VPN's traffic from other, unrelated networks. The IP tunnels are point-to-point links established between routers and are statically configured by a network operator. IP tunneling, however, does not ensure inter-network security because it relies on the customer premise equipment being correctly configured. Further, routing disturbances caused by one customer may affect the routing performance of another customer's network, thus affecting performance.

The present invention address these problems by providing a first router coupled to a shared Multi-Protocol Label Switched (MPLS) network and configured to dynamically distribute first router VPN information across the shared MPLS network and by providing a second router coupled to the shared MPLS network and configured to dynamically distribute second router VPN information across the shared MPLS network.

The Examiner contends that Kawafuji discloses "dynamically distributing VPN information from a first router to a second router" and refers to col. 9, lines 59-63 of the reference which describes that a packet whose MAC header was updated by a second routing section 30 is sent to a terminal apparatus or another router together with the ID number of the corresponding virtual local area network (VLAN) and the port number. However, Kawafuji describes that the MAC header updating circuit 32 of the second routing section 30 updates the *unique MAC address* of the destination router and the *unique MAC address* SA_{MAC} of the source

router that are contained within the MAC header of the data packet. (See col. 1, lines 45-47; col. 2, lines 38-47; and col. 7, line 65 - col. 8, line 5). The second routing section does not update the ID number of the corresponding VLAN and the port number. In fact, the ID numbers of the VLANs and the port numbers that correspond to respective IP addresses are *registered in advance* in the memory table 23' of each router. (See Fig. 6; and col. 9, lines 48-59). The ID numbers of the VLANs and the port numbers are not *dynamically* distributed.

Further, though the Examiner acknowledges that "Kawafuji does not disclose a Multiprotocol Label Switched (MPLS) type network", he nevertheless asserts that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the communication system as disclosed by Kawafuji upon a Multiprotocol Label Switched network". However, Kawafuji assumes that an Internet Protocol (IP) is used on the network layer (see col. 1, lines 29-34) and is not concerned with using other protocols or with the greater complexity of a MPLS network. Thus, the Examiner's assertion that using a MPLS network merely involves only routine skill in the art amounts to applying an "obvious to try" standard to determine obviousness which both the Federal Circuit and its predecessor, the CCPA, have long held is not the standard of 35 U.S.C. §103. See *In re Antonie*, 195 USPQ 6, 8-9 (CCPA 1977); and *In re O'Farrel*, 7 USPQ 2d 1673, 1680-1 (Fed.Cir. 1988). Thus, the modification of Kawafuji's communication system to operate as a shared MPLS network is not obvious.

Therefore, Kawafuji does not suggest:

a first router coupled to the shared MPLS network and configured to dynamically distribute first router VPN information across the shared MPLS network, wherein said first router VPN information includes a VPN identifier which is assigned to said first router

and does not suggest:

a second router coupled to the shared MPLS network and configured to dynamically distribute second router VPN information across the shared MPLS network; wherein said second router VPN information includes a VPN identifier which is assigned to said second router

as called for in claim 1.

It follows that Kawafuji neither suggests nor contemplates the invention set out in claim 1, and therefore claim 1 is patentably distinct and unobvious over the reference.

Claims 2-3 and 5-6 depend from claim 1 and further define and limit the invention called for in the independent claim, as well as call for additional limitations. Therefore, each of claims 2-3 and 5-6 likewise defines a combination that is patentably distinguishable over Kawafuji.

Regarding claims 5 and 6, the Examiner acknowledges that Kawafuji “is silent regarding label switched paths which comprise multipoint-to-point paths or multipoint-to-multipoint paths” but asserts that it would have been obvious to provide Kawafuji’s network communication system with multiple multipoint-to-point paths and multipoint-to-multipoint paths. Kawafuji, however, is only concerned with point-to-point transmission of packets and is not at all concerned with label switched path that comprise at least two multipoint-to-point paths, as defined in claim 5, or with label switched path that comprise at least one multipoint-to-multipoint path, as set out in claim 6.

Independent claim 7 includes limitations similar to those set out in claim 1 and is similarly distinguishable over Kawafuji.

Claims 8-9 depend from claim 7 and further define and limit the invention called for in the independent claim. Thus, claims 8-9 are similarly distinguishable over the reference.

Accordingly, the withdrawal of the rejection of Claims 1-3 and 5-9 under 35 U.S.C. § 103 is respectfully requested.

The Examiner also objected to claims 4 and 10 as being dependent upon a rejected base claim. For the reasons set out above, it is submitted that claims 4 and 10 are in condition for allowance.

In view of the foregoing remarks, it is submitted that the Examiner's objections have been met and that the rejection of the claims under 35 U.S.C. § 103 is overcome.

It is therefore submitted that this case is in condition for allowance, and such action is respectfully requested.

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Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Lawrence E. Russ", is written over a horizontal line.

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